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This work assignment includes 150 hours for preparation of the work plan and to begin work on the work assignment. To the best of my knowledge, this work does not duplicate any work previously performed or currently being performed by this office.								
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Contracting Official Name Rodney-D	Daryl Jones			U	ch/Mail Code:	### #5 · ·		
				Phor	ne Number: 919-	-541-3112		

AMAD Newcastle, UK Ambient Sampling Work

I. Title: Cerium Ambient Sampling

Contractor Name: ERG Inc.
Contract #: EP-D-11-006

WA #: 2-01

II. Work Assignment Manager (WAM) and Alternate WAM:

WAM Name: William Benjey

U.S. Environmental Protection Agency Program Office: ORD

Division/Lab: AMAD/NERL Mail Code: E-243-01

City, State, Zip Code: Research Triangle Park, NC 27711

Phone w/area code: 919-541-0821

Alt. WAM Name: Havala Pye U.S. Environmental Protection Agency Program Office: ORD

Division/Lab: AMAD/NERL

Mail Code: E243-03

City, State, Zip Code: Research Triangle Park, NC 27711

Phone w/area code: 919-541-3557

III. Background:

Diesel vehicles are a major source of particulate matter. In an attempt to reduce PM2.5 emissions and increase fuel efficiency, nanoparticle fuel additives have been developed, several of which are based on cerium oxide. For this work, size-segregated sampling of ambient PM will be conducted at the Newcastle Civic Center at Newcastle-upon-Tyne on St. Mary's Place in the United Kingdom. This scope of work addresses Phase II of the work assignment.

IV. Description and Tasks:

The purpose of this work is to characterize near-road concentrations and deposition influenced by emissions from diesel vehicles using cerium oxide based fuel borne catalysts. This work assignment (Phase II) follows from information gained during Phase I of the field monitoring and the same site under WA1-06. Deliverables from the work include reports, plant samples, filter samples, and sample analysis. Phase II shall include collection of plant samples and attribution of the ambient cerium to diesel exhaust. Samples for bulk analysis (in-house EPA) will be collected along with several samples for Transmission Electron Microscopy (TEM) analysis (to be performed as part of this work assignment). The plant(s) identified in phase I will be collected and mailed to the EPA in Corvallis, Oregon for analysis. Two sets of PM10 samples, at high and low traffic times respectively, shall also be collected to attribute ambient cerium levels to diesel exhaust. The contractor shall provide all necessary equipment and supplies except for filters for use in the MOUDI/nanoMOUDI and PM10 instruments for bulk analysis.

The contractor shall perform the following tasks:

			Initial D	eliverables	
Task	Deliverable	Expected Completion Date	Suggested Equipment	Number of samples/ collection intervals	Additional Comments
Develop a project work plan	Report, Draft and Final	3 weeks after receipt of SOW from EPA	NA	NA	Report shall be delivered as an electronic file in Word Document format for 8.5 by 11 inch paper.
Prepare a revised Quality Assurance Project Plan (QAPP)	Report, Draft and Final	3 weeks after receipt of SOW from EPA	NA	NA	The QAPP shall be prepared in accordance with EPA guidance (EPA-QAR-5), and include a description of QA/QC steps to be followed for each task of this work assignment and persons responsible. The contractor shall revise the QAPP based on EPA comments and provide a final version. A summary QA report in electronic form shall be delivered, describing test results from each task of the work assignment.
Provide a Standard Operating Procedure (SOP) for transmission electron microscopy (TEM) or similar analysis	SOP/ Report, Draft and Final	3 weeks after receipt of SOW from EPA	NA	NA	The SOP shall be consistent with EPA QA/G-6-Guidance for Preparing Standard Operating Procedures. EPA will review and approve the SOP. SOP must be approved before samples are collected.

			Comprehensive Sa	ampling Deliverables	
Task	Deliverable	Expected	Suggested	Number of	Additional Comments
		Completion	Equipment	samples/ collection	
		Date		intervals	
Obtain size- segregated samples of ambient particulate matter for bulk analysis	Exposed filters and blanks	Due August 31, 2012; samples shall be mailed shortly after collection in batches	12-stage MOUDI and nanoMOUDI cascade impactor	6 total: 5 of which use a MOUDI while at least 1 uses a nanoMOUDI (this number may be revised higher or lower pending outcome of initial sampling)	EPA will provide P5PJ047 zefluor filters (plus P5PJ037 zefluor for backup filter) for local pickup at EPA offices in RTP by ERG. Exposed filters and blanks shall be sent to the EPA in Research Triangle Park, NC, USA for ICP-MS analysis.
TEM or similar analysis of size-segregated samples	Report including 4 images per stage analyzed, exposed filters with grids	Due August 31, 2012	nanoMOUDI cascade impactor	6 stages of 3 separate sampling episodes. The 6 smallest size stages should be analyzed and a minimum of 4 images per stage included in the report (6 x 3 x 4 = 72 images). nanoMOUDI stages: 8-13 (320 to 10 nm). The nanoMOUDI collection for TEM analysis shall be run in parallel as much as possible with the size-segregated MOUDI sampling for bulk analysis.	The contractor shall be responsible for providing TEM grids for sample collection. The existence of any of the following shall be noted and images included in draft and final reports, including: Cerium oxide particles in primary form unattached to soot (approximately 5-10 nm in diameter or 13 to 26 nm in aerodynamic diameter). Cerium oxide agglomerates, aggregates, or formations larger than primary size. Cerium oxide attached to soot. Cerium oxide inclusions in other materials. Other cerium oxide or soot particles that are not mixed. EPA also requires that the filters be shipped to them after analysis.

Collect plant samples Collect PM10 samples during high and low-	Exposed filters and blanks	Due August 31, 2012 Due August 31, 2012	2 x Thermo Partisol 2025 based on phase I	Along with the size-segregated samples	After the contractor notifies the EPA of which plants are available for sampling as part of Phase I deliverables, the EPA will decide which plants to sample. The contractor shall then sample the plants and return the samples to EPA in Corvallis, Oregon, USA. The shipment shall include pictures of the area where the plants were sampled and the plant from which the sample was taken. EPA will provide information on shipping and handling procedures based on the outcome of Phase I. The contractor shall be responsible for abiding by all rules and regulations in the UK and US regarding shipment of plants. PM10 samples shall be collected at the same time as the size-segregated samples for bulk analysis with one set of the PM10
traffic times			project plan		samples devoted to high bus-traffic times and the other set devoted to low bus traffic times. Filters shall be sent to the EPA for bulk analysis. EPA will provide teflon filters.
Collect continuous meteorological data	Data	Due August 31, 2012	3-D sonic anemometer is desirable but 2-D will suffice.	Time resolution in data: 5 minutes or less.	Include: temperature, pressure, relative humidity, windspeed, wind direction, height of windspeed measurement, and mixing height/ atmospheric turbulence.
High resolution video	Video Clips/Data	Due August 31, 2012	NA	Continuous during sampling	Continuously collect high resolution video during sample collection to capture the bus identification numbers and visible exhaust during sampling periods.

Collect black carbon measurements	Data	Due August 31, 2012	microaethalo- meter (magee Scientific Model AE22 or microAeth Model AE51 based on phase I project plan)	Along with the size- segregated samples Time resolution in data: 5 minutes or less.	Collect microaethalometer measurements of black carbon continuously during sampling periods.
Provide documentation	Log of sampling activities, Shipping manifests	Due September 30, 2012	NA	NA	Field notes and shipping manifests shall be provided to EPA. The notes shall also include the exact location of where equipment was located during the sampling time periods as well as pictures of the site (at least once per month of sampling to capture changes in vegetation).
Obtain Automatic Urban and Rural Network (AURN) monitoring data	Data	Due August 31, 2012	AURN existing TEOM	Time resolution in data: 5 minutes or less if available.	If available, provide sub-hourly PM10 and/or PM2.5 data from the AURN Newcastle Civic Center Monitoring site.
			Final Repo	rt Deliverable	
Task	Deliverable	Expected Completion Date	Suggested Equipment	Number of samples/ collection intervals	Additional Comments
Provide a final report	Report, Draft and Final	Draft due September 1, 2012 with final 2 weeks after EPA comments	NA	NA	Provide a draft final report in EPA report format, using Word. The report shall describe the sampling rationale, protocol, sampling completed, analysis performed by the contractor and a descriptive, graphical and statistical summary of monitoring results.

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Comments: The work plan dated 05/25/12 has been reviewed and we concur with the labor mix, technical hours (467.5), ODCs, total estimated cost \$139,046 and completion date 09/30/12. There are comments to the WP attached to this WC. The									
contractor shall submit a r	contractor shall submit a revised WP and cost estimate. This document is IAW the CMM 7.3.5.1(D)								
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ATTACHMENT

Work Assignment Title: Cerium Ambient Sampling

Contract #: EP-D-11-006

Contractor: ERG WA#: 2-01 WA Change #: 1

WAM: Bill Benjey

Comments on Work Plan No. EP-D-11-006, WA 2-01

Page 2-2: For additional clarity, the first paragraph after Task 2, From "For this subtask, EPA will provide..." through the end of that paragraph should be revised. A table is provided below (it can be added to the Work Plan for additional clarity if desired).

EPA will provide 47 mm zelfuor filters (P5PJ047) for the upper stages of the MOUDI and 47mm MTL (PT47P) filters for the upper stages of the nanoMOUDI. EPA will provide 47 mm zefluor filters for the backup filter for the nanoMOUDI and 37mm zefluor filters (P5PJ037) for the backup filter in the MOUDI. Specifically, the EPA will provide the following filters:

	Number	Filters per	Total	Part number	Type of Filter
	of	collection	Number of		71
	collections		Filters		
MOUDI	5	11	55	P5PJ047	47 mm
					zefluor
nanoMOUDI	1	13	13	PT47P/47M	47 mm MTL
				TL	
MOUDI (backup)	5	1	5	P5PJ037	37 mm
~~					zefluor
nanoMOUDI	1	1	1	P5PJ047	47 mm
(backup)					zefluor
PM10 samples	6	2	12	PT47P/47M	47 mm MTL
				TL	
nanoMOUDI for	3	6	18	PT47P/47M	47 mm MTL
TEM (no grids				TL	
provided)					
nanoMOUDI for	3	1	3	P5PJ047	47 mm
TEM (no grids					zefluor
provided) backup					
blanks+spares	NA	NA	11	P5PJ047	47 mm
					zefluor
blanks+spares	NA	NA	7	PT47P/47M	47 mm MTL
25460				TL	
blanks+spares	NA	NA	4	P5PJ037	37 mm
					zefluor
Grand total			129		

Part P5PJ037: 2 um pore-size, 0.152 mm thickness,

http://www.pall.com/main/Laboratory/Product.page?id=20061

Part P5PJ047: 2 um pore-size, 0.152 mm thickness,

http://www.pall.com/main/Laboratory/Product.page?id=20061

Part PT47P: 0.2 um pore-size, 0.39 mm thickness, http://www.mtlcorp.com/#/filters

Page 2-3: At anytime when the filter ID number cannot be seen from the exterior of the package (for example, after the filters are wrapped in foil) the filter ID numbers contained in the batch should be indicated on the exterior of the package. When signing the chain of custody documents, the representative should indicate whether the package was opened to determine the individual numbers or obtained from the outside of the sealed package. Once exposed, the filters will ideally be unwrapped in a clean room for verification of numbers.

Page 5-1: There is a reference to "both options" (which should be removed).

Page 5-2: Can the name of the person providing the TEM analysis be mentioned?

General: Please add the table previously shown to us, with roles and responsibilities.

OAPP Comments:

Page 6 of 17: Revise section on filters to be consistent with revisions to work plan.

Page 11 of 17: See comments about hidden filters numbers during shipment in work plan section. As an added check against misplaced filters, a picture of the exposed filters sitting in front of their stage should be taken when the MOUDI or nanoMOUDI is unloaded. Note the the Zefluor filters have a top and bottom and extra care should be taken not to flip them when transferring from petri dishes to the MOUDI stages.

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Comments:	Comments: The revised deliverable schedule dated 08/02/12 is approved with the following comment. ERG shall submit rough draft							
report materials exclusive of	of the TEM analysis							
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Project Officer Name Karen C. Wat	son			Bran	ch/Mail Cod	e:		
Ph				Phor	ne Number:	919-5	541-3114	
(Signature) (Date) FA				FAX	Number:			
Other Agency Official Name				Bran	ch/Mail Cod	e:		
					ne Number:			
(Signature)		(Date)		Number:			
Contracting Official Name Rodney-Da	aryl Jones			0. 300	ch/Mail Cod			
				Phor	ne Number:	919-	541-3112	

Deliverable	Date to EPA
Task 1 Deliverable	·
Work Plan	Draft - May 25, 2012
	Final – one week after receiving comments on the draft work plan
SOP for TEM analysis	Draft – June 26, 2012
	Final – one week after receiving comments on the draft SOP
QAPP	Draft – May 25, 2012
	Final – one week after receiving comments on the draft AQPP
Monthly Progress reports	Monthly commencing on May 15, 2012
Task 2 Comprehensive Sampling	
Implement passive exhaust sampling	Send samples in batches as soon as
Implement size segregated, PM ₁₀ , and TEM sampling	sampling episode is completed – final
Implement vegetative sampling	batch no later than August 31, 2012
Collect microaethalometer data for black carbon	
Compile meteorological and AURN data	
Compile video data for bus identification	
Analysis of TEM samples	January 18, 2013
Compile documentation, field notes, photos and shipping manifests	February 1, 2013
Task 3 Final Report	
Draft report	February 1, 2013
Final report	One week after receiving EPA comments on Draft Phase II Report

	United States F	United States Environmental Protection Agency Washington, DC 20460 Work Assignment				Work Assig	nment Nu	umber		
EDA						2-01				
EPA	Wo						Other	X Amenda	nent Number:	
							000006			
Contract Number	Contract Perio	d 04/	29/2011 To	03/31/2	2013	Title of Wor	k Assignr	nent/SF Site Nar	ne	
EP-D-11-006	Base		Option Period Nur			Cerium Ambient Sampling				
Contractor Specify Section and paragraph of Contract SOW								9		
EASTERN RESEARCH GROUP,										
Purpose: Work Assignment Work Assignment Close-Out						Period of Performance				
X Work Assignment A	mendment		Incremental Funding	g						
Work Plan Approval	ı					From ()	4/12/2	2012 To 03	3/28/2013	
Comments:			Account Constitution of Constitution		4.40	3		and proceedings and record and		
This amendment (1) revises to $3/31/13$. The contractor is								ormance unti	1	
This amendment is in accorda	nce with CMM 7.	3.5.1(O).							
			*	oriations Data						
Superfund			unting and Approp					X	Non-Superfund	
SFO SFO	Note: To report ad	ditional acc	counting and appropria	ations date use f	EPA Form 1900	0-69A.				
(Max 2)										
	opriation Budget O e (Max 6) (Ma	rg/Code ix 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Do	ollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)	
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Contract Period: Cost/Fee: LOE:										
04/29/2011 To 03/31/201 This Action:	3								4.	
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Total:										
		Wor	k Plan / Cost Estir	mate Approva	ls					
Contractor WP Dated:	Cost	/Fee:			LOE:					
Cumulative Approved:	Cost	/Fee:			LOE:					
Work Assignment Manager Name Will:	iam Benjey				Bran	Branch/Mail Code:				
					Phor	Phone Number 919-541-0821				
A WALL OF THE PROPERTY OF THE						FAX Number:				
Project Officer Name Karen C. Watson					Bran	ıch/Mail Co	de:			
Pi					Phor	Phone Number: 919-541-3114				
(Signature) (Date) F,						Number:				
Other Agency Official Name Br					Bran	ich/Mail Co	de:			
Pt						ne Number:				
(Signature)	1 -		(Date)			FAX Number:				
Contracting Official Name Rodney-D	aryl Jones					Branch/Mail Code:				
						Phone Number: 919-541-3112				

AMAD Newcastle, UK Ambient Sampling Work

I. Title: Cerium Ambient Sampling

Contractor Name: ERG Inc. Contract #: EP-D-11-006

WA #: 2-01, Rev. 1

II. Work Assignment Manager (WAM) and Alternate WAM:

WAM Name: William Benjey

U.S. Environmental Protection Agency Program Office: ORD

Division/Lab: AMAD/NERL Mail Code: E-243-02

City, State, Zip Code: Research Triangle Park, NC 27711

Phone w/area code: 919-541-0821
Alt. WAM Name: Havala Pye
U.S. Environmental Protection Agency
Program Office: ORD

Division/Lab: AMAD/NERL

Mail Code: E243-03

City, State, Zip Code: Research Triangle Park, NC 27711

Phone w/area code: 919-541-3557

Level of Effort

Labor Hours: 500

Duration: Six months 12 months Completion Date: 9/30/20123/31/13

III. Background:

Diesel vehicles are a major source of particulate matter. In an attempt to reduce PM2.5 emissions and increase fuel efficiency, nanoparticle fuel additives have been developed, several of which are based on cerium oxide. For this work, size-segregated sampling of ambient PM will be conducted at the Newcastle Civic Center at Newcastle-upon-Tyne on St. Mary's Place in the United Kingdom. This scope of work addresses Phase II of the work assignment.

IV. Description and Tasks:

The purpose of this work is to characterize near-road concentrations and deposition influenced by emissions from diesel vehicles using cerium oxide based fuel borne catalysts. This work assignment (Phase II) follows from information gained during Phase I of the field monitoring and the same site under WA1-06. Deliverables from the work include reports, plant samples, filter samples, and sample analysis. Phase II shall include collection of plant samples and attribution of the ambient cerium to diesel exhaust. Samples for bulk analysis (in-house EPA) will be collected along with several samples for Transmission Electron Microscopy (TEM) analysis (to be performed as part of this work assignment). The plant(s) identified in phase I will be collected and mailed to the EPA in Corvallis, Oregon for analysis. Two sets of PM10 samples, at high and low traffic times respectively, shall also be collected to attribute ambient cerium levels to diesel exhaust. The contractor shall provide all necessary equipment and supplies except for filters for use in the MOUDI/nanoMOUDI and PM10 instruments for bulk analysis.

As a part of Revision 1 to this work assignment the contractor shall collect dust and soil samples at the monitoring site using EPA-provided sampling kits. Specifically:

- 1. 3 surface pavement dust samples (~250 ml each) from the Stagecoach Bus Depot (3 representative sites).
- 2. 3 street dust samples (~ 250 ml each) from the roadway (St. Mary's Place) in front of the monitoring site (3 representative sites)
- 3. 3 samples of soil (~250 ml) each from the field adjacent to the monitoring site (3 sites)

Additional sampling supplies will be provided which shall be used to collect samples at other sites that the Contractor deems potentially relevant to the Newcastle monitoring study. The Contractor shall ship the samples to the Project Officer for subsequent preparation and analysis.

Soil Sample Collection Methods

EPA will provide sampling kits containing a detailed sample collection SOP with field sampling log sheet, powder-free gloves, acid-cleaned disposable polypropylene scoops, polypropylene bottles (500 ml), silicone brushes for each sample collected, and sample custody tape. Three grab samples at different sites for each type of dust or soil collected will be considered adequate provide a representative sample collection.

Loose surface street dusts and pavement dusts shall be swept into the polypropylene scoops and dumped into the polypropylene bottles.

Soil samples shall be collected at a depth of 0 to 1/2 inches by scooping the soil into the polyproplylene bottles using a clean scoop. Clean powder-free gloves will be used at each sampling location to minimize the chance of cross contamination. The Contractor shall collect approximately 250 ml of dust or soil (half a bottle) for each sample. If the area adjacent to the monitoring site is grass covered, three (3) small areas of grass will be removed and the first 0-1/2 inches of soil below the grass cover will be collected from the area. The grass will be removed with a small disposable trowel provided in the sampling kit. Care will be taken to replace the grass and clean soil potting will be added below the grass to restore the sample area.

The Contractor shall document the sampling site for each sample with photographs and written notes on the field log sheets.

The contractor shall perform the following tasks:

	Initial Deliverables							
Task	Deliverable	Expected Completion Date	Suggested Equipment	Number of samples/ collection intervals	Additional Comments			
Develop a project work plan	Report, Draft and Final	3 weeks after receipt of SOW from EPA	NA	NA	Report shall be delivered as an electronic file in Word Document format for 8.5 by 11 inch paper.			
Prepare a revised Quality Assurance Project Plan (QAPP)	Report, Draft and Final	3 weeks after receipt of SOW from EPA	NA	NA	The QAPP shall be prepared in accordance with EPA guidance (EPA-QAR-5), and include a description of QA/QC steps to be followed for each task of this work assignment and persons responsible. The contractor shall revise the QAPP based on EPA comments and provide a final version. A summary QA report in electronic form shall be delivered, describing test results from each task of the work assignment.			
Provide a Standard Operating Procedure (SOP) for transmission electron microscopy (TEM) or similar analysis	SOP/ Report, Draft and Final	3 weeks after receipt of SOW from EPA	NA	NA	The SOP shall be consistent with EPA QA/G-6-Guidance for Preparing Standard Operating Procedures. EPA will review and approve the SOP. SOP must be approved before samples are collected.			

Comprehensive Sampling Deliverables						
Task	Deliverable	Expected	Suggested	Number of	Additional Comments	
		Completion	Equipment	samples/ collection		
		Date		intervals		
Obtain size- segregated samples of ambient particulate matter for bulk analysis	Exposed filters and blanks	Due August 31, 2012; samples shall be mailed shortly after collection in batches	12-stage MOUDI and nanoMOUDI cascade impactor	6 total: 5 of which use a MOUDI while at least 1 uses a nanoMOUDI (this number may be revised higher or lower pending outcome of initial sampling)	EPA will provide P5PJ047 zefluor filters (plus P5PJ037 zefluor for backup filter) for local pickup at EPA offices in RTP by ERG. Exposed filters and blanks shall be sent to the EPA in Research Triangle Park, NC, USA for ICP-MS analysis.	
TEM or similar analysis of size-segregated samples	Report including 4 images per stage analyzed, exposed filters with grids	Due August 31, 2012	nanoMOUDI cascade impactor	6 stages of 3 separate sampling episodes. The 6 smallest size stages should be analyzed and a minimum of 4 images per stage included in the report (6 x 3 x 4 = 72 images). nanoMOUDI stages: 8-13 (320 to 10 nm). The nanoMOUDI collection for TEM analysis shall be run in parallel as much as possible with the size-segregated MOUDI sampling for bulk analysis.	The contractor shall be responsible for providing TEM grids for sample collection. The existence of any of the following shall be noted and images included in draft and final reports, including: Cerium oxide particles in primary form unattached to soot (approximately 5-10 nm in diameter or 13 to 26 nm in aerodynamic diameter). Cerium oxide agglomerates, aggregates, or formations larger than primary size. Cerium oxide attached to soot. Cerium oxide inclusions in other materials. Other cerium oxide or soot particles that are not mixed. EPA also requires that the filters be shipped to them after analysis.	

Collect plant samples Collect PM10 samples during high and low-traffic times	Exposed filters and blanks	Due August 31, 2012 Due August 31, 2012	NA 2 x Thermo Partisol 2025 based on phase I project plan	Along with the size-segregated samples	After the contractor notifies the EPA of which plants are available for sampling as part of Phase I deliverables, the EPA will decide which plants to sample. The contractor shall then sample the plants and return the samples to EPA in Corvallis, Oregon, USA. The shipment shall include pictures of the area where the plants were sampled and the plant from which the sample was taken. EPA will provide information on shipping and handling procedures based on the outcome of Phase I. The contractor shall be responsible for abiding by all rules and regulations in the UK and US regarding shipment of plants. PM10 samples shall be collected at the same time as the size-segregated samples for bulk analysis with one set of the PM10 samples devoted to high bus-traffic times
			r)r		and the other set devoted to low bus traffic times. Filters shall be sent to the EPA for bulk analysis. EPA will provide teflon filters.
Collect continuous meteorological data	Data	Due August 31, 2012	3-D sonic anemometer is desirable but 2-D will suffice.	Time resolution in data: 5 minutes or less.	Include: temperature, pressure, relative humidity, windspeed, wind direction, height of windspeed measurement, and mixing height/ atmospheric turbulence.
High resolution video	Video Clips/Data	Due August 31, 2012	NA	Continuous during sampling	Continuously collect high resolution video during sample collection to capture the bus identification numbers and visible exhaust during sampling periods.

Collect black	Data	Due August	microaethalo-	Along with the size-	Collect microaethalometer measurements
carbon		31, 2012	meter (magee	segregated samples	of black carbon continuously during
measurements			Scientific Model	Time resolution in	sampling periods.
			AE22 or	data: 5 minutes or less.	
			microAeth	24/2000/000-estude Mile Committee (American American Amer	
			Model AE51		
			based on phase I		
			project plan)		
Provide	Log of	Due	NA	NA	Field notes and shipping manifests shall be
documentation	sampling	September			provided to EPA. The notes shall also
	activities,	30, 2012			include the exact location of where
	Shipping	, ´			equipment was located during the
	manifests				sampling time periods as well as pictures
					of the site (at least once per month of
					sampling to capture changes in vegetation).
Obtain	Data	Due August	AURN existing	Time resolution in	If available, provide sub-hourly PM10 and/or
Automatic		31, 2012	TEOM	data: 5 minutes or less	PM2.5 data from the AURN Newcastle Civic
Urban and Rural				if available.	Center Monitoring site.
Network					
(AURN)					
monitoring data Obtain Surface	Samples	March 8, 2013	EPA-provided	2	Sampling shall be documented with
pavement dust,	prepared and	March 6, 2013	sampling kits	3 samples of each type, collected in accordance	photographs and notes written on field log
street dust, and	shipped to		sampung kus	to the above described	sheets.
soil samples	the EPA PO			procedures.	offects.
			Final Repo	rt Deliverable	
Task	Deliverable	Expected	Suggested	Number of	Additional Comments
		Completion	Equipment	samples/ collection	
		Date		intervals	
Provide a final	Report,	Draft due	NA	NA	Provide a draft final report in EPA report
report	Draft and	March 10,			format, using Word. The report shall
	Final	2013 Septemb			describe the sampling rationale, protocol,
		er 1, 2012			sampling completed, analysis performed by

with final 2	the contractor and a descriptive, graphical
weeks after	and statistical summary of monitoring
EPA	results.
comments	

EDA.	United States Environmental Protection Agency Washington, DC 20460				Work Assignment Number 2-01				
EPA	Work As	Work Assignment				Other X Amendment Numbe			
						000007			
Contract Number	Contract Period 04/	29/2011 To	03/31/2	2014	Title of Wo	rk Assignr	nent/SF Site Nar		
EP-D-11-006	0.17			2011	The of Work Assignment of Oile Name				
Contractor Base X Option Period Number Specify Section and paragraph of Contract SOW									
EASTERN RESEARCH GROUE	, INC.	<i>e</i> 1		14					
Purpose: Work Assignment		Period of Performance							
X Work Assignment	Amendment	Incremental Funding	g						
Work Plan Approv	al				From (04/12/2	2012 To 03	3/31/2013	
Comments:					•				
This Work Assignment Change Performance end date of Opt		Performance t	o read:03/	'31/2013 i	n accord	dance wi	th the Perio	od of	
This amendment is in accord		% 3/8							
Superfund	Acco	unting and Approp	oriations Data	ĺ			Χ	Non-Superfund	
SFO SFO	Note: To report additional ac	counting and appropria	ations date use E	EPA Form 190	0-69A.				
(Max 2)									
2 10 100 000 0000 0					ollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)	
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Contractor WP Dated:	Cost/Fee:			LOE:					
Cumulative Approved:	Cost/Fee:			LOE:					
Work Assignment Manager Name Will	iam Benjey			Bran	Branch/Mail Code:				
*				Pho	Phone Number 919-541-0821				
						FAX Number:			
Project Officer Name Karen C. Watson					nch/Mail Co	ode:			
PI					ne Numbe	r: 919-!	541-3114		
(Signature) (Date) FA									
Other Agency Official Name Br					nch/Mail Co	ode:			
Pr					Phone Number:				
(Signature)		(Date)		FAX	FAX Number:				
Contracting Official Name Rodney-	Daryl Jones			Bran	Branch/Mail Code:				
				Pho	Phone Number: 919-541-3112				
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